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Atty. Dkt. No. 017700-0173

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Katsuya HASEGAWA et al  
Title: SINGLE CRYSTALLINE BASE  
THIN FILM  
Appl. No.: 10/526,896  
International Filing Date: 10/29/2003  
371(c) Date: 03/07/2005  
Examiner: Xu, Ling X.  
Art Unit: 1775  
Confirmation Number: 7835

**INFORMATION DISCLOSURE STATEMENT**  
**UNDER 37 CFR §1.56**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Submitted herewith on Form PTO/SB/08 is a listing of a document known to Applicants in order to comply with Applicants' duty of disclosure pursuant to 37 CFR §1.56.

A copy of each non-U.S. patent document and each non-patent document is being submitted to comply with the provisions of 37 CFR §1.97 and §1.98.

The submission of any document herewith, which is not a statutory bar, is not intended as an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicants do not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document which is determined to be a *prima facie* art reference against the claims of the present application.

**TIMING OF THE DISCLOSURE**

The listed document is being submitted in compliance with 37 CFR §1.97(b), before the mailing date of the first Office Action on the merits, and within three (3) months of the mailing date of the foreign search report.

**RELEVANCE OF EACH DOCUMENT**

Any document listed on the attached PTO/SB/08 was cited as being relevant during the prosecution of the corresponding Chinese application. A partial translation of excerpts from the Chinese Search Report is included below setting forth the portion of each document considered relevant by the examiner:

The present application relates to a single crystal base thin film. As stated in the description, the object of the present application is to provide a method of forming a single crystalline thin film of better quality in the case that the desired thin film is formed on the substrate and to provide a thin film having properties equal of superior to those of a base substance. The following comments are provided after the examination:

R1 (*Nippon kinzoku Gakkaishi Katsuya Hasegawa et al. Vol. 66, No. 4, pp 320-328*) discloses a  $\text{SmBa}_2\text{Cu}_3\text{O}_y$  thin film formed on an underlayer  $\text{BaZrO}_3$ , which comprises a substance different from the underlayer  $\text{BaZrO}_3$ ; moreover, a BaO atomic layer commonly contained between the two is shared at an interface of said two substances; the orientation of said thin film, is on the basis of the base substance  $\text{BaZrO}_3$  layer, has a range of the deviation angle of less than 1.6 degree; in addition, the diffraction data of the X ray shows that most of the  $\text{SmBaCO}$  thin film is single crystalline (see pages 320-328 of R1).

The dependent claims 2-8 respectively define the structure and chemical ingredients of the single crystalline base thin film. However, R1 discloses that the underlayer is  $\text{BaZrO}_3$  (the claim 7); a superconductor thin film  $\text{SmBa}_2\text{Cu}_3\text{O}_y$  is formed thereon (the claim 6); a superconducting temperature is 93K (the claim 8); a substance having a stacked-layer crystal structure is included (the claim 2); at least one is made of a substance having a crystal structure of a perovskite type (the claim 4) and at least one comprises an oxide including at least two kinds of metal elements (claim 3) and the range of the difference of lattice constant between said thin film and said underlayer (claim 5) (see page 320-328 of R1).

Applicants respectfully request that each listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

Although Applicant believes that no fee is required for this Request, the Commissioner is hereby authorized to charge any additional fees which may be required for this Request to Deposit Account No. 19-0741.

Respectfully submitted,

Date June 12, 2006

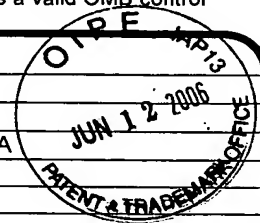
By Phillip J. Articola <sup>Reg. No.</sup> 38,819

FOLEY & LARDNER LLP  
Customer Number: 22428  
Telephone: (202) 672-5407  
Facsimile: (202) 672-5399

for / David A. Blumenthal  
Attorney for Applicant  
Registration No. 26,257

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Substitute for form 1449B/PTO <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  Date Submitted: June 12, 2006 <i>(use as many sheets as necessary)</i>				<b>Complete if Known</b>	
				Application Number	10/526,896
				Filing Date	10/29/2003
				First Named Inventor	Katsuya HASEGAWA
				Group Art Unit	1775
				Examiner Name	Xu, Ling X.
				Attorney Docket Number	017700-0173
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### U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			

### UNPUBLISHED U.S. PATENT APPLICATION DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Application Document		Name of Patentee or Applicant of Cited Document	Filing Date of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Serial Number	Kind Code <sup>2</sup> (if known)			

### FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Documents	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				

### NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>6</sup>
	B1	HASEGAWA, K., et al., "Preparation of SmBa <sub>2</sub> Cu <sub>3</sub> O <sub>y</sub> Films with Improved in-plane Alignment by Pulsed Laser Deposition", Vol. 66, No. 4, pp. 320-328 (2002).	

Examiner Signature		Date Considered	
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

<sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.